images or data samples, and means for processing the images or data samples using a method in accordance with claim 1.
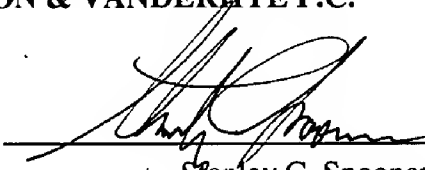
REMARKS

The above amendments are made to place the claims in a more traditional format.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned "**Version With Markings To Show Changes Made.**"

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

3. (Amended) A method according to claim 1 [or claim 2] in which the equations comprise linear equations.

4. (Amended) A method according to [any preceding claim] claim 1 in which the variables correspond to points in an image of a surface constructed from an array of data samples from different positions on the surface.

5. (Amended) A method according to [any preceding claim] claim 1 in which each variable allocated to a bounded area corresponds to the parameter to be sensed (e.g. surface temperature).

6. (Amended) A method according to [any preceding claim] claim 1 in which the variables comprise surface temperature measurements and the sensor comprises a microwave antenna adapted to detect radiation emitted from or reflected off the surface.

7. (Amended) A method according to [any preceding claim] claim 1 in which more than one set of linear equations is used and each linear equation in a set may be allocated a weighting, with different weightings used for each set.

8. (Amended) A method according to [any preceding claim] claim 1 in which the sensor is adapted to receive information radiated or reflected from a footprint on the surface to produce a data sample and the linear equations may then be calculated from data samples corresponding to a number of such footprints for different surface areas.

11. (Amended) A method according to [any preceding claim] claim 1 in which each bounded area is smaller than the size of each footprint for the data samples.

12. (Amended) A method according to [any preceding claim] claim 1 in which each data sample used to construct the set of linear equations corresponds to a footprint covering a different but overlapping area of the surface.

13. (Amended) A method according to [any preceding claim] claim 1 in which the boundaries are defined by reprojecting the data samples onto a GIS map of the surface.

14. (Amended) A method according to [any preceding claim] claim 1 in which the weights, α, are based on the convolution for the gain function of the receiver with the boundaries of the area surface sensed.

16. (Amended) A software program for implementing on a computer adapted to perform a method in accordance with [any one of claims 1 to 15] claim 1.

19. (Amended) A method according to claim 17 [or claim 18] in which the weighting coefficients are associated with the directional sensitivity of the sensor(s) used to capture the set of original signals.

20. (Amended) A method according to [any one of claims 17 to 19] claim 17 in which the processed signal for each mapping region is determined by assuming it to be a constant value and solving a redundant, or solvable, number of simultaneous equations which each have the processed signal as one parameter, and weighted values derived from the original signals as other parameters, the weighting and the original signals being known.

21. (Amended) A method according to [any one of claims 17 to 20] claim 17 in which the mapping regions are representative of real physical features known to be present in the scene being viewed by the image-gathering apparatus.

24. (Amended) A method according to claim 22 [or 23] in which the method comprises processing the original signals to obtain a plurality of values for at least some pixels of the original pixellated field of view.

26. (Amended) A software carrier carrying software which when operational on a computer or network [either provides an image processing apparatus according to claim 25 or] operates the computer or network according to the method of [any one of claims] claim 1 [to 24].

29. (Amended) Apparatus according to claim 27 [or claim 28] in which the image capturing means comprises a microwave antenna or an infrared receiver.

30. (Amended) Apparatus according to claim 27[, 28 or 29] in which the image capturing means is mounted on a remote sensing vehicle such as a satellite, aeroplane or ship.

31. (Amended) A satellite system, or other remote sensing platform or installation having one or more sensors having an overlapping field of view so as to produce overlapping unprocessed images or data samples, and means for processing the images or data samples using a method in accordance with [any one of claims 1 to 20] claim 1.

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